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**Title:** Wnt Network: A Brief Review of Pathways and Multifunctional Components**Author(s):** Abdolmaleki, F (Abdolmaleki, Fereshte); Ahmadpour-Yazdi, H (Ahmadpour-Yazdi, Hossein); Hayat, SMG (Hayat, Seyed Mohammad Gheibi); Gheibi, N (Gheibi, Nematollah); Johnston, TP (Johnston, Thomas P.); Sahebkar, A (Sahebkar, Amirhossein)**Source:** CRITICAL REVIEWS IN EUKARYOTIC GENE EXPRESSION **Volume:** 30 **Issue:** 1 **Pages:** 1-18 **DOI:** 10.1615/CritRevEukaryotGeneExpr.2019025774 **Published:** 2020**Times Cited in Web of Science Core Collection:** 1**Total Times Cited:** 1**Usage Count (Last 180 days):** 2**Usage Count (Since 2013):** 2**Cited Reference Count:** 124

**Abstract:** The Wnt signaling pathway appears to activate intracellular signaling transduction in embryonic development, cell migration, hematopoiesis, and several diseases. Wnt signaling is basically recognized as a canonical beta-catenin-independent signaling pathway. However, in recent years, generally three Wnt-mediated pathways have been investigated, which operate independently of beta-catenin and include calcium/calmodulin-dependent kinase II and protein kinase C, planar cell polarity, and a third one recruits heterotrimeric GTP-binding proteins to stimulate phospholipase C and phosphodiesterase. We provide an overview of the noncanonical Wnt signaling pathway and then will focus on canonical Wnt signaling components, Wnt ligands, agonists, and antagonist. This review will also discuss beta-catenin, both cytoplasmic and nuclear mechanisms, through signaling transduction, and, as a consequence, we have briefly highlighted potential implications of Wnt/beta-catenin in some cancers.

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[Ahmadpour-Yazdi, Hossein; Gheibi, Nematollah] Qazvin Univ Med Sci, Cellular &amp; Mol Res Ctr, Qazvin, Iran.

[Ahmadpour-Yazdi, Hossein] Qazvin Univ Med Sci, Fac Paramed Sci, Med Biotechnol Dept, Qazvin, Iran.

[Hayat, Seyed Mohammad Gheibi] Shahid Sadoughi Univ Med Sci, Fac Med, Genet Dept, Yazd, Iran.

[Johnston, Thomas P.] Univ Missouri, Sch Pharm, Div Pharmacol &amp; Pharmaceut Sci, Kansas City, MO 64110 USA.

[Sahebkar, Amirhossein] FDA, Halal Res Ctr IRI, Tehran, Iran.

[Sahebkar, Amirhossein] Mashhad Univ Med Sci, Biotechnol Res Ctr, Pharmaceut Technol Inst, Mashhad, Razavi Khorasan, Iran.

[Sahebkar, Amirhossein] Mashhad Univ Med Sci, Neurogen Inflamm Res Ctr, Mashhad, Razavi Khorasan, Iran.

**Corresponding Address:** Ahmadpour-Yazdi, H (corresponding author), Qazvin Univ Med Sci, Fac Paramed Sci, Med Biotechnol Dept, Qazvin, Iran.

Sahebkar, A (corresponding author), Mashhad Univ Med Sci, Sch Med, Dept Med Biotechnol, POB 91779-48564, Mashhad, Razavi Khorasan, Iran.

**E-mail Addresses:** hahmadpour@qums.ac.ir; sahebkar@ums.ac.ir**Author Identifiers:**

Author	Web of Science ResearcherID	ORCID Number
Sahebkar, Amirhossein	B-5124-2018	
Ahmadpour-Yazdi, Hossein	Q-2089-2016	
Gheibihayat, Seyed Mohammad, fereshte	H-9394-2016	0000-0002-1378-118X 0000-0003-1242-4006

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